

CLAIMS:

1. A process for the preparation of a conjugated linolenic acid comprising the steps of
 - 5 - blending one or a mixture of vegetable oils with various concentrations of linolenic acid or partial glycerides of such oils or partially purified and/or concentrated isomers with a base and in the presence of water;
 - recovering the resulting conjugated linolenic acids.
- 10 2. The process according to claim 1, characterised in that it is performed at a temperature ranging from 160°C to 200°C.
3. The process according to claim 2, characterised in that the temperature is 180°C.
- 15 4. The process according to claim 1, characterised in that it proceeds for a period varying between 0.5 hour to 4 hours.
5. The process according to claim 4, characterised in that the period is 2 hours.
- 20 6. The process of claim 1, characterised in that the vegetable oil comprises linseed oil, *Plukenetia volubilis* oil, borage oil or a mixture thereof.
7. The process of claim 1, characterised in that the base is selected from a group consisting of sodium hydroxide, sodium alkoxylate, sodium metal, potassium hydroxide,
25 potassium alkoxylate and potassium metal.
8. The process according to claim 7, characterised in that the base is hydroxide or potassium hydroxide.
- 30 9. A conjugated linolenic acid selected from the group consisting of 9*cis*,11*trans*,15*cis*-octadecatrienoic acid and 9*cis*,13*trans*,15*cis*-octadecatrienoic acid.
10. A composition comprising at least one linolenic acid of claim 9 or obtained by the process of claim 1.
- 35 11. The composition of claim 10, further comprising the mixture of linolenic acids of claim 9.

12. The composition according to claim 11, characterised in that the linolenic acid mixture has a ratio of 1:1 and has a concentration which varies between 30% and 90% by weight relative to the weight of the composition.

5

13. The composition according to claim 10, characterised in that it comprises at least 40% by weight of at least one linolenic acid of claim 9 or a mixture thereof, and less than 0.5% by weight of 11,13-cyclic by-product.

10 14. Use of at least one linolenic acid obtained from the process of claim 1, in a therapeutically effective amount for the prevention or treatment of cancer in a mammal.

15. The use of claim 14, characterised in that the linolenic acid is 9*cis*,11*trans*,15*cis* as octadecatrienoic acid or 9*cis*,13*trans*,15*cis* octadecatrienoic acid.

15

16. The use according to claim 14, characterised in that the mammal is a human.

17. The use according to claim 14, characterised in that the cancer is breast cancer.

20 18. Use of a linolenic acid prepared from the process of claim 1, for the treatment or prevention of cancer in a mammal.

19. Use according to claim 18, characterised in that the mammal is a human.

25 20. Use according to claim 18, characterised in that the cancer is breast cancer.

21. Use of a conjugated linolenic acid obtained from the process of claim 1 for drying oil in varnishes.

30 22. A method for preventing or treating cancer in a mammal, comprising administering to the mammal a therapeutically effective amount of a composition comprising at least one conjugated linolenic acid as defined in claim 9, or as obtained from the process of claim 1.

23. The method of claim 22, characterised in that the composition is as defined in claim
35 12 or 13.

24. The method of claim 22, characterised in that the mammal is a human.

25. The method of claim 22, characterised in that the cancer is breast cancer.
26. A C18:3 11,13 cyclohexadiene compound obtained from the process of claim 1.